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FACTORS ASSOCIATED WITH PREMATURITY IN WARRI NIGER DELTA; AN EIGHT YEAR REVIEW

G I Mcgil Ugwu
Dept of Paediatrics, Delta State University, Abraka.

ABSTRACT
Prematurity is a major cause morbidity and mortality in developing countries. The factors associated with preterm births in Warri over an eight year period include, low socioeconomic class, place of antenatal care, antenatal complications notably hypertension in pregnancy, fever, anaemia and bleeding in pregnancy. Other associated factors include multiple gestations, previous history of abortion and prematurity. Trauma and fetal abnormalities were not major factors associated with preterm deliveries. Economic empowerment and improvement of the antenatal care, with better assess to specialist obstetricians and adequate treatment of fever in pregnancy will greatly reduced the incidence of prematurity.

KEYWORDS: Prematurity, neonatal death, babies, management, obstetricians, treatment

INTRODUCTION

Prematurity is a major cause of neonatal death in Nigeria. (Bolanle *et al*., 2007, Ezechukwu *et al*., 2004) Many factors have been associated with premature births.(Etuk *et al*., 2005) Adequate management of such babies require skilled and dedicated staff, making it both capital and labour intensive to manage these babies, a luxury not so available in Nigeria. Warri is an oil city in the south- south region of Nigeria and the major hospitals for the management of preterms are the Central Hospital, a government hospital and GN Children's clinic, a private children's clinic. These hospitals serve three local government areas with a combined population of two million three hundred and fifty people using the 2006 census in Nigeria.(Federal Republic of Nigeria, 2007) The aim of this review is to find the factors that are associated with premature births in Warri Niger Delta, which may help in public health education in the area. This study involves the premature babies managed in these hospitals between 2000 and 2007.

MATERIALS AND METHOD

On presentation the following information were obtained: the age of the mother, marital status, the occupation of parents, place of residence, educational status of parents, the gynaecological and obstetric history of the mother, the history of the involved pregnancy, gestational age of the pregnancy, any event precipitating the delivery such as strenuous activities, previous abortions whether induced or spontaneous. Presence of anaemia, hypertension, use of drugs or any illness in that pregnancy were also asked for.

RESULTS

Six hundred and thirty nine patients were seen within the said period. Tale 1 shows the number of preterms managed per year between year 2000 and 2007.

TABLE 1: SHOWING THE NUMBER OF PREMATURE BABIES SEEN PER YEAR

YEAR	NUMBER OF PRETERMS SEEN
2000	65
2001	88
2002	76
2003	95
2004	76
2005	79
2006	83
2007	77
TOTAL	639

Of these, two hundred and ten had no identifiable cause for the premature delivery (32.9%) one hundred and twenty had multiple factors. Table 2 shows the identifiable factors.

TABLE 2 SHOWING: IDENTIFIABLE FACTORS

	IDENTIFIABLE FACTORS
1	SCIO-ECONOMIC CLASS
2	PLACE OD ANTENATAL CARE
3	AGE OF MOTHER
4	PREVIOUS HISTORY OF ABORTIONS, PRETERM DELIVERY, ATTEMPTS TO ABORT CURRENT PREGNANCY
5	ANTENATAL COMPLICATIONS IN CURRENT PREGNANCY
6	MULTIPLE GESTATION
7	TRAUMA
8	FETAL MALFORMATIONS

Social class was a major factor in our review. Three hundred and sixty were in the lower social class, while two hundred were in the middle class, and seventy nine were in the high class. The classification is according to (Krieger and colleague. 1997) Fig 1 is a bar chart showing the numbers according to the social class of the parents

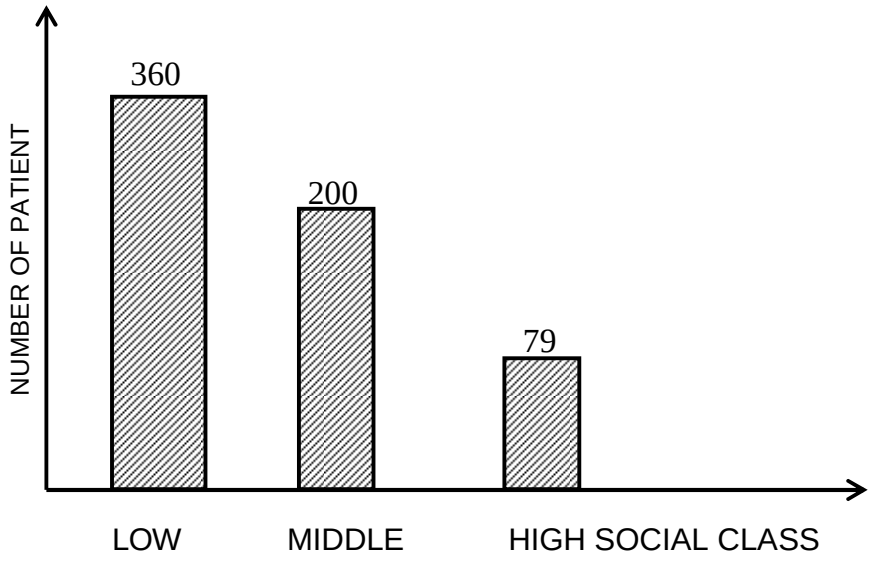

FIG 1 A BAR CHART SHOWING: THE NUMBER OF PRETERMS ACCORDING TO THE SOCIOECONOMIC CLASS OF PARENTS

Another major contributing factor is the place of antenatal care and delivery one hundred and ninety eight mothers were managed in maternity homes run by midwives, while one hundred and fifty five were delivered by traditional birth attendants. One hundred and twenty were delivered at home. Infact over 74% were not seen by obstetricians.

Fig 2 is a histogram showing the place of antenatal care of the mothers

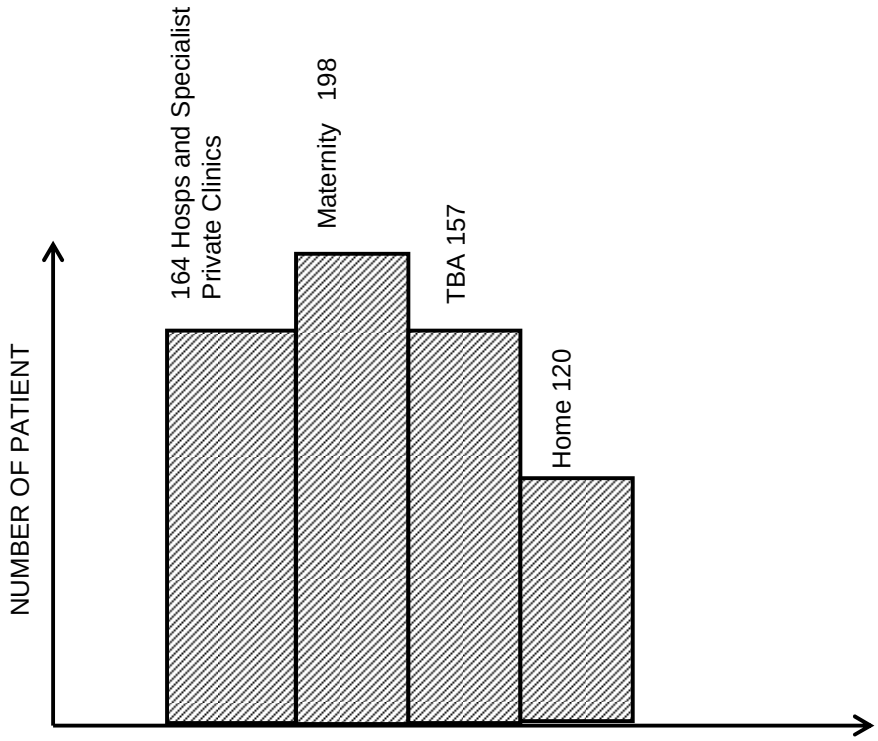

FIG 2 SHOWING: THE NUMBER OF PRETERMS DELIVERED AT VARIOUS PLACES

The age of the mother had no influence as three hundred and thirty eight of these pretrems were delivered by mothers between 20years and forty years, giving a percentage of 54.1%. The age distribution of the mothers is shown in table 3

TABLE 3 SHOWING: AGE DISTRIBUTION OF THE MOTHERS

AGE RANGE OF MOTHER	NUMBER OF PATIENTS
LESS THAN 20YEARS	200
20-30YEARS	260
30-40YEARS	138
MORE THAN 40YEARS	41

There was previous history of preterm delivery, abortion, spontaneous or induced in two hundred and forty cases, representing 39.3%. Infact, one of the patients was delivered at 26wks+ by illegal abortion but the parents decided to keep the baby when they saw how vigorous her cry was after delivery, and she is alive till date. Table 4 shows the influence of these factors

TABLE 4 SHOWING: THE INFLUENCE OF PREVIOUS PRETERM DELIVERY, RECURRENT OR ILLEGAL ABORTION OF ATTEMPT TO ABORT IN THAT PREGNANCY

PREVIOUS HISTORY OF PRETERM DELIVERY AORTION OR ATTEMPTS IN THAT PREGNANCY	NUMBER
PREVIOUS PRETERM DELIVERY	86
HISTORY OF RECURRENT ABORTION	80
PREVIOUS HISTORY OF ILLEGAL ABORTION	60
ATTEMPTS TO ABORT IN THAT PREGNANCY	14
TOTAL	240

Mothers of two hundred and forty of these babies had antenatal complications. The various complications and their numbers are represented in fig 3

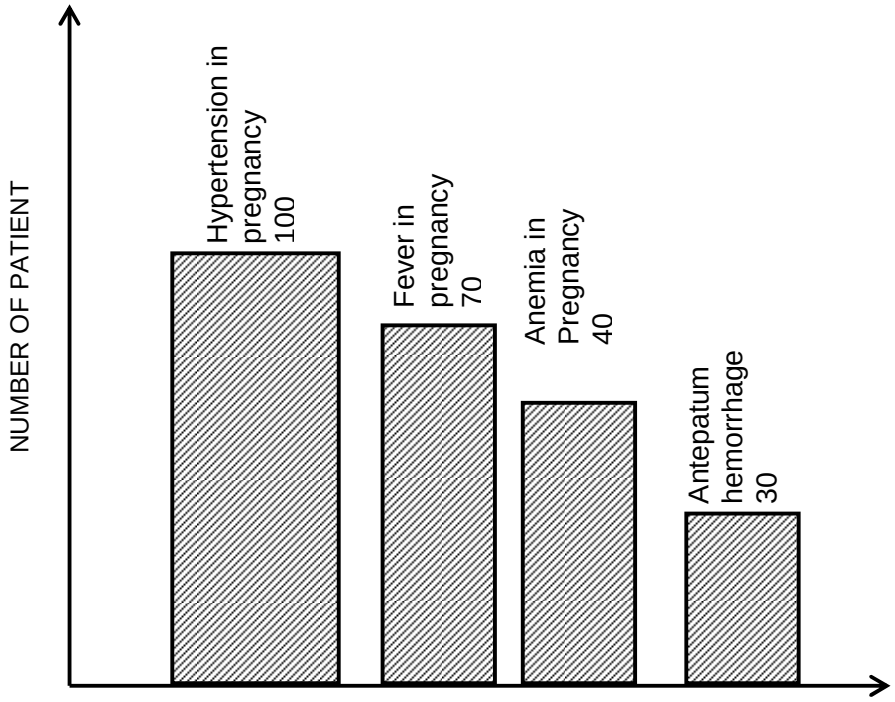

FIG 3 SHOWING: THE COMPLICATIONS IN PREGNANCY ASSOCIATED WITH PRETERM BIRTHS

Pregnancy induced hypertension was the commonest antenatal event precipitating preterm delivery, followed by fever in pregnancy.

Multiple gestations were also a contributing factor as one hundred and seventy one of the babies were products of multiple gestations. This gives a percentage of 26.6%. The order of the multiple pregnancy is shown in table 5.

TABLE 5 SHOWING: THE ORDER OF MULTIPLE PREGNANCY

ORDER OF MULTIPLE PREGNANCY	NUMBER
TWIN PREGNANCY	150
TRIPPLET PREGNANCY	20
QUADRUPLET PREGANCY	1
TOTAL	171

In only fifty cases was trauma responsible for the premature delivery, and seven were delivered malformed.

DISCUSSION

The social class of the parents is a major associating factor in preterm births. This is keeping with the observation by Azikeh in Benin (Azikem 2003) but at variance with the findings of Etuk *et al.* in Calabar Warri, Benin and Calabar all belong to the south –south region of Nigeria. However Etuk and colleagues did recognize the effect of the misery associated with the introduction of the structural adjustment programmme (SAP) by the Babaginda administration in Nigeria in the mid-80s, and preterm delivery. Moreover, prematurity is in blacks in developed countries (Robert, Dwight 1998) There is a strong correlation between prematurity and low socio-economic status.(Barbra *et al*., 1998)

Another major associated factor is the place of antenatal care. Mothers of over 74% of our patients were not seen by obstetricians. Infact a significant percentage 33% were attended to by the traditional birth attendants or churches/healing homes who do not employ midwives. These attendants hardly recognize antenatal complications such as malaria or anemia which are known to induce premature labour. (Sowumi 2003, Guard 2004)

Age of the mother was not a major contributing factor as most of our patients were delivered by mothers between the ages of 20years and 40years. This is keeping with the findings by Etuk *et al* in Calabar Nigeria. (Etuk *et al*., 2005).

Previous histories of abortion or premature delivery were major associated factors and this is a similar experience by others. (Okonofua *et al*., 1994, Espilin *et al*., 2008, Spong *et al.*, 2007). Okonofua *et al*., 1994 noted that most of the criminal abortions in Nigeria are carried out by quacks and this often leads to cervical incompetence. (Okonofua *et al*., 1994) One of our patients was a product of induced abortion at 26wks+. The parents decided to keep the baby after seeing the vigor of the girl after delivery and the child is still alive today.

Multiple gestation is a well known cause of preterm delivery worldwide. (Etuk *et al*., 2005), Preemies for Africa 2009, Nanninin *et al*., 2004) and the findings here are similar and the higher the order of multiplicity, the higher the incidence of preterm birth.(American Rep Health 2009).

Antenatal complications notably hypertension in pregnancy were also found to be associated with pretem deliveries (Babara *et al*., 2007, Magee *et al*., 2008) The preterm delivery results from either spontaneous labour or decision to terminate the pregnancy earlier should either the mother or the baby be in danger arising from eclampsia or placental insufficiency respectively. These are the two major effects of pregnancy induced hypertension on the mother and child respectively.(Carmel Lyoid 2007, Kirstie Flood 2008).

Trauma and fetal abnormalities had very minimal effect in the observations noted, probably because gross abnormalities leading to fetal loss occur much earlier in the pregnancy

CONCLUSION

In conclusion therefore, prematurity remains a major cause of morbidity and mortality. The factors responsible for preterm deliveries are very preventable and can be addressed in the context of maternal and child health

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Corresponding Author:
G I Mcgil Ugwu
P O Box 3217 Warri Delta State
E-Mail: Gnclinic@Yahoo.Com